

WHAT IS CLAIMED IS:

1. A broadcast type service system using communications according to Bluetooth specification, the system

5 comprising:

at least one transmission device;  
a reception information providing device; and  
a plurality of reception devices;  
each transmission device having:

10 a transmission device communication unit configured to carry out communications with the reception information providing device and the reception devices; and

a transmission device control unit configured to control the transmission device communication unit to  
15 transmit application data to at least one reception device and to transmit a reception establishing information of each transmission device which is necessary for a reception device to receive the application data transmitted from each transmission device;

20 the reception information providing device having:

a reception information providing device communication unit configured to carry out communications with each transmission device and the reception devices;  
and

25 a reception information providing device control unit configured to control the reception information providing device communication unit to receive the reception establishing information of each transmission device transmitted from each transmission device, and to  
30 transmit the reception establishing information of a specified transmission device to a prescribed reception device; and

each reception device having:

a reception device communication unit configured to  
35 carry out communications with each transmission device and

the reception information providing device; and

5 a reception device control unit configured to control the reception device communication unit to receive the reception establishing information of one transmission device transmitted from the reception information providing device, and to receive the application data transmitted from said one transmission device according to the reception establishing information of said one transmission device.

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2. The system of claim 1, wherein the reception information providing device also has a memory unit configured to store the reception establishing information received by the reception device communication unit.

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3. The system of claim 1, wherein the reception information providing device also has a plurality of memory units configured to separately store the reception establishing information of a plurality of transmission devices received by the reception device communication unit.

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4. The system of claim 1, wherein the reception information providing device control unit is also  
25 configured to acquire a service specification of a service provided by each transmission device from each transmission device, compare the service specification of the specified transmission device with a specification of service acceptable to the prescribed reception device, and control  
30 the reception information providing device communication unit to transmit the reception establishing information of the specified transmission device to the prescribed reception device only when the service specification of the specified transmission device is acceptable to the  
35 prescribed reception device.

5. The system of claim 1, wherein the transmission device control unit of each transmission device is also configured to control the transmission device communication unit to transmit the application data even when there is no reception device that is carrying out communications with each transmission device in an active mode according to the Bluetooth specification.

6. The system of claim 1, wherein the reception device control unit is also configured to control the reception device communication unit to receive the application data transmitted from said one transmission device according to the reception establishing information of said one transmission device, only when communications in an active mode according to the Bluetooth specification cannot be carried out with said one transmission device.

7. The system of claim 1, wherein the reception device communication unit receives the reception establishing information that indicates a hopping pattern and a phase of said one transmission device.

8. The system of claim 1, wherein the reception device communication unit receives the reception establishing information that indicates a Bluetooth device address and a clock of said one transmission device.

9. The system of claim 1, wherein the reception information providing device communication unit transmits the reception establishing information of the specified transmission device that indicates a Bluetooth device address of the specified transmission device, a clock offset between the specified transmission device and the reception information providing device, and a clock of the

reception information providing device at a time of transmitting the reception establishing information to the prescribed reception device.

5 10. The system of claim 1, wherein the reception  
information providing device communication unit transmits  
the reception establishing information of the specified  
transmission device that indicates a Bluetooth device  
address of the specified transmission device, a clock of  
10 the specified transmission device at a time of transmitting  
the reception establishing information from the specified  
transmission device to the reception information providing  
device, a clock of the reception information providing  
15 device at a time of receiving the reception establishing  
information from the specified transmission device, and a  
clock of the reception information providing device at a  
time of transmitting the reception establishing information  
to the prescribed reception device.

20 11. The system of claim 1, wherein the reception  
information providing device communication unit receives  
the reception establishing information of each transmission  
device by carrying out communications according to the  
Bluetooth specification with each transmission device.

25 12. The system of claim 1, wherein the reception  
information providing device communication unit receives  
the reception establishing information of each transmission  
device by carrying out communications different from  
30 communications according to the Bluetooth specification  
with each transmission device.

13. A broadcast type service system using communications  
according to Bluetooth specification, the system  
35 comprising:

at least one transmission device; and  
a plurality of reception devices;  
each transmission device having:

5 a transmission device communication unit configured  
to carry out communications with the reception devices; and

a transmission device control unit configured to  
control the transmission device communication unit to  
transmit application data to at least one reception device,  
and to transmit a reception establishing information of  
10 each transmission device which is necessary for a reception  
device to receive the application data transmitted from  
each transmission device; and

each reception device having:

15 a reception device communication unit configured to  
carry out communications with each transmission device; and

a reception device control unit configured to  
control the reception device communication unit to receive  
the reception establishing information of one transmission  
device transmitted from said one transmission device by  
20 carrying out communications in an active mode according to  
the Bluetooth specification with said one transmission  
device, and to receive the application data transmitted  
from said one transmission device according to the  
reception establishing information of said one transmission  
25 device when communications with said one transmission  
device is switched from the active mode to a park mode  
according to the Bluetooth specification.

14. The system of claim 13, wherein the transmission  
30 device control unit of each transmission device is also  
configured to send an inquiry to one reception device that  
is carrying out communications in the active mode with each  
transmission device, the inquiry inquiring whether said one  
reception device is a device capable of switching to  
35 communications in the park mode or not, receive a response

to the inquiry from said one reception device, store information on the response, and switch communications with said one reception device from the active mode to the park mode according to stored information on the response.

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15. The system of claim 13, wherein the transmission device control unit of each transmission device is also configured to control the transmission device communication unit to transmit the application data even when there is no reception device that is carrying out communications with each transmission device in an active mode according to the Bluetooth specification.

16. The system of claim 13, wherein the reception device control unit is also configured to control the reception device communication unit to receive the application data transmitted from said one transmission device according to the reception establishing information of said one transmission device, only when communications in an active mode according to the Bluetooth specification cannot be carried out with said one transmission device.

17. The system of claim 13, wherein the reception device communication unit receives the reception establishing information that indicates a hopping pattern and a phase of said one transmission device.

18. The system of claim 13, wherein the reception device communication unit receives the reception establishing information that indicates a Bluetooth device address and a clock of said one transmission device.

19. A method for providing a broadcast type service using communications according to Bluetooth specification, the method comprising:

(a) transmitting application data from each transmission device to at least one reception device;

(b) transmitting from each transmission device a reception establishing information of each transmission device which is necessary for a reception device to receive the application data transmitted from each transmission device;

(c) receiving the reception establishing information of each transmission device transmitted from each transmission device at a reception information providing device;

(d) transmitting the reception establishing information of a specified transmission device from the reception information providing device to a prescribed reception device;

(e) receiving the reception establishing information of one transmission device transmitted from the reception information providing device at one reception device; and

(f) receiving the application data transmitted from said one transmission device at said one reception device according to the reception establishing information of said one transmission device.

20. A method for providing a broadcast type service using communications according to Bluetooth specification, the method comprising:

(a) transmitting application data from each transmission device to at least one reception device;

(b) transmitting from each transmission device a reception establishing information of each transmission device which is necessary for a reception device to receive the application data transmitted from each transmission device;

(c) receiving the reception establishing information of one transmission device transmitted from said one transmission device at one reception device by carrying out communications in an active mode according to the Bluetooth specification with said one transmission device; and

1 (d) receiving the application data transmitted from said  
one transmission device at said one reception device  
according to the reception establishing information of said  
one transmission device when communications with said one  
5 transmission device is switched from the active mode to a  
park mode according to the Bluetooth specification.

21. A reception information providing device in a  
broadcast type service system using communications  
10 according to Bluetooth specification, the reception  
information providing device comprising:

a communication unit configured to carry out  
communications with each transmission device and reception  
devices; and

15 a control unit configured to control the communication  
unit to receive a reception establishing information of  
each transmission device transmitted from each transmission  
device which is necessary for a reception device to receive  
application data transmitted from each transmission device,  
20 and to transmit the reception establishing information of a  
specified transmission device to a prescribed reception  
device, such that the prescribed reception device can  
receive application data transmitted from the specified  
transmission device according to the reception establishing  
25 information of the specified transmission device received  
from the reception information providing device.

22. A reception device in a broadcast type service system  
using communications according to Bluetooth specification,  
30 the reception device comprising:

a communication unit configured to carry out  
communications with each transmission device; and

a control unit configured to control the communication  
unit to receive a reception establishing information of one  
35 transmission device transmitted from said one transmission



device which is necessary for the reception device to  
receive application data transmitted from said one  
transmission device, by carrying out communications in an  
active mode according to the Bluetooth specification with  
5 said one transmission device, and to receive application  
data transmitted from said one transmission device  
according to the reception establishing information of said  
one transmission device when communications with said one  
transmission device is switched from the active mode to a  
10 park mode according to the Bluetooth specification.

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